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Identity and Altruism The Moral Basis of Prosperity and Oppression

Kaushik Basu

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Indian Statistical Institute, Delhi
Planning Unit
7 S.J.S. Sansanwal Marg, New Delhi 110 016, India

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Kaushik Basu

Department of Economics
Cornell University
Ithaca, New York 14853
Email: kb40@cornell.edu

Abstract

Much of economics is built on the assumption of individuals being driven by self-interest and economic development as an outcome of the free play of such individuals. On the few occasions that economics recognizes the role of altruism and trust, the tendency is to build these from the axiom of individually selfishness. The aim of this paper is to break away from this individualistic tradition and to treat as a primitive that individuals have hard-wired in them the 'cooperative spirit', which allows them often to work in their collective interest, even when that may not be in their self-interest. The main objective of the paper is to track the interface between altruism and group identity. By using the basic structure of a Prisoner's Dilemma game among randomly picked individuals and building into it assumptions of general or in-group altruism, the paper demonstrates how our selfish rationality interacts with our innate sense of cooperation. The model is used to outline circumstances under which cooperation will occur and circumstances where it will break down. The paper also studies how sub-groups of a society can form cooperative blocks, whether to simply do better for themselves or exploit others.

Key words: cooperative spirit, altruism, identity, development, Prisoner's Dilemma

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Identity and Altruism: The Moral Basis of Prosperity and Oppression

1. Celebrating Self-Interest

That the butcher, the baker and the bee-keeper, each pursuing his or her self-interest, can bring about social order, whereby the meat arrives on the diner's table, the bread gets delivered to the street corner deli, and honey travels from the remote Tasmanian farm to the Edinburgh restaurant, was a stunning intellectual insight. It is not surprising that when, on 9 March, 1776, Adam Smith's book, **The Wealth of Nations**, containing this proposition was published it was quickly recognized as a classic¹. So enamoured were the political economists of that time and their progeny, the economists, that this became the central tenet of economic theory. That individuals would be self-seeking was not just taken to be a fact, but celebrated. Development and growth were attributed to the actions of such atomistic selfish individuals. This, in turn, has tended to obscure the fact that rapid growth and successful development may also require individual integrity and altruism, and the ability of individuals to forego some personal advantages for reasons of societal benefit.

In the early nineties I used to take a team of research students to a cluster of villages in one of the most anarchic and poor regions of India—now in the state of Jharkhand. Seeing the utter chaos in the region, some may have proffered the popular advice that for development what is needed is for less government and for individuals to be left free to pursue their self-interest. But such an advice would be quite absurd in this case.--There was no trace of any government for '*less* government' to be a feasible option. And there was no dearth of individually selfish behavior either. What was lacking was the fauna and flora of social values and the cooperative spirit that make economic efficiency and development possible. Contrary to what many textbooks teach us, the regions of the world which are economically the biggest disasters are often the ones which are models of the free market, with amoral individuals seeking nothing but their own self-aggrandizement.

¹ It is interesting to note that, in the first two or three decades after the book came out, Smith was considered a renegade thinker (Rothschild, 2001). He would become the voice of orthodoxy and be claimed by the conservatives only after the safety of his death in 1790.

Ever since Adam Smith's classic, methodological individualism has become such a deeply entrenched foundation stone of economics that the predominant tendency has been to refuse to admit that a person can and often does act in his national interest or class interest or caste interest or interest based on some other collective identity. When we want to recognize such collective interests, the methodologically acceptable method among economists has been to *derive* the social or cooperative behavior from the primitive of self-interest.

The aim of this paper is to break away from this individualistic tradition and to treat as a primitive the fact that individuals have hard-wired in them, admittedly to varying extents, the 'cooperative spirit', which allows them to often work in the collective interest, even when that may not be in their *self*-interest and to make sacrifices for the sake of fairness and integrity.²

It must be put on record that, though the central tendency in economics has been to deny the cooperative spirit, there is now a body of writers who have recognized this and have even constructed models to make amends for it (see, for instance, Knack and Keefer, 1997; Fehr and Gächter, 2000; Fehr and Falk, 2002; Hoff, Kshetramade and Fehr, 2006; Benabou and Tirole, 2006).³ And sociologists, cognitive psychologists and moral philosophers have for long written about the importance of trust and altruism among people, and how these are important for more complex relationships to thrive and for a group or a nation to progress economically (e.g., Luhman, 1979; Gambetta, 1990; Fukuyama, 1996; Hauser, 2006). That human beings have innate social and normative values is increasingly recognized in our formal social-science models, thanks to the new literature on 'behavioral economics'⁴ (though it is a bit alarming that social-scientists needed a large literature to realize this)⁵.

² This is not to deny that many interesting questions of fairness and justice can be raised within the domain of self-interested players. I explored some of this in Basu (2000). Recently, Myerson (2004) has developed the ingenious approach of modeling justice as a method of selecting equilibria in contexts where there are multiple equilibria and, left to anarchy, agents can end up in the equilibrium where everybody is worse off.

³ One area where the cooperative spirit has been an accepted assumption is the analysis of the household and economists and sociologists have tended to take a relatively common approach (see Basu, 2006; Blumberg and Coleman, 1989). Zelizer (2005, p. 165) observes, "[The] mixture of caring and economic activity within households takes place in a context of incessant negotiation, sometimes cooperative, other times full of conflict."

⁴ See, for instance, the paper by Loewenstein and O'Donoghue (2005), which summarizes some of this, with emphasis on how our rational selves combine with our other selves to guide what we ultimately choose.

⁵ Outside of the social sciences, it is well-recognized that individuals are not always relentless maximizers of material wealth. In his novel, **Mating** (New York: Alfred Knopf, 1991), after discussing how people generally "want more," Norman Rush goes on to observe (p. 5), "The average Black African has the opposite problem: he or she does not want enough." And recognizing that this causes distress to social scientists, he goes on to observe, "A whole profession called Rural Animation exists devoted to making villagers want more and work harder to get it."

In the light of this existing research, the main objective of the paper is not just to acknowledge that human beings have these traits, but to track their consequences in an area that has received little attention—the interface between altruism, identity and welfare. I will assume that the ‘utils’ that measure a person’s welfare need not coincide with the ‘payoffs’ that individuals seek to maximize through their behavior and acts of choice. Altruism, in particular, can cause a divergence between the two.

The formal analysis begins by demonstrating a kind of converse of the celebrated ‘invisible hand theorem’ of economics, which asserts that, even though each individual may be innately selfish, the collection of such selfish behavior, mediated through the market, leads to socially optimal outcomes. I shall here argue that human beings are innately social, altruistic and other-regarding⁶ and, while these traits typically aid cooperative behavior, there are situations where, despite each individual’s instinctive cooperative spirit, social optimality breaks down. In other words, the invisible hand is not always benevolent; it can work in reverse, whereby a group of innately altruistic individuals can behave in a way, which is collectively ruinous for them. I do not think that the villagers of the Jharkhand village I mentioned above are innately any different from the citizens of more prosperous and well-organized communities. They are caught in a malevolent equilibrium. The possibility of such malevolent equilibria is, in itself, well-known and can be illustrated by lots of standard games. My plan is to take this forward in two ways. It is first illustrated how such an equilibrium can be pervasive with incomplete information and how there can be a domino effect. Then I study the consequences of in-group altruism and identity.

The paper is focused largely on positive analysis. While I do comment on normative matters, I deliberately do not take a normative stand on the cooperative spirit. This is because the same spirit of cooperation that promotes economic progress can be, and in the long history of mankind there are many instances where it has been, turned against other groups, usually minorities, but also majorities that are disorganized and unable to promote their own cooperative spirit of resistance. This is an important problem of the inter-face between identity and altruism. When a people’s altruism is confined to some in-group, this can lead to even greater oppression than oppression by selfish but atomistic individuals. For one, group oppression allows for the free-riding of guilt among the oppressors.

⁶ This is not to deny that these qualities can be enhanced or muted, through appropriate nurture

2. Worldly Contexts

In one of his recent books, Amartya Sen (2005, pp. 335-6) asks the interesting question why British investment which came so plentifully to so many sectors (such as tea, coffee, railways and jute) of its prize colony, India, nevertheless failed to come in, in any substantial measure, into the cotton textile, iron and steel. He then points out that these were central to the old established industries of Britain in Manchester and elsewhere. But that still does not explain why the bureaucrats of the Raj, who had no direct interest in these industries, would deprive India of capital. To close the argument, Sen notes that we have to recognize that a “general sense of social identity and priorities, which are known to play a considerable part in economic decisions in general, exerted significant influence on the pattern of British investment in India.” The British bureaucrats were working not in their self-interest but in the interest of the group that they identified with.

The converse was also true. When, in the early twentieth century, insurgency and uprisings against British rule started in many places in India, especially Bengal, there was some puzzlement on the part of the British, as was evident from the Rowlatt Sedition Committee Report of 1918, about the fact that the leaders of these insurgencies were usually from among the English-educated elites (known among the British as “gentlemanly terrorists”), employed by the British and the ones to gain most from the persistence of British rule (Ghosh, 2005). The answer once again lies in identity. These elites identified themselves more with the Indian masses than with the British rulers and were willing to make personal sacrifices in order to promote the group interest. Winston Churchill was known to be puzzled and irritated by this deficiency of narrow self-interest among the Indian elites fighting for the nation’s freedom. This is not to deny that people also have strong self-interests and, with even more skillfully designed incentives, the British rulers may have been able to keep the Indian elites behaviorally loyal to the Raj. But, in fact, to design such incentives right, one has to keep in mind that self-interest is often mediated by one’s collective-identity interest, and the analytics of this, as we shall presently see, can be complicated even in the simple world of the Prisoner’s Dilemma.

In addition to examples from out in the world, there is now plenty of evidence from controlled experiments that people can work in their collective interests, even when that entails

making personal sacrifices and, in addition, the trust and the altruism can be conditional on who they are interacting with, even when they are all strangers. That human beings have these additional ‘moral preferences’, like the desire to reciprocate and win approval in the eyes of others and, at times, of one’s own conscience is now well-documented.⁷ An interesting set of experiments was conducted by Fershtman and Gneezy (2001) on students from the University of Haifa, Academic College of Tel Aviv and Tel Aviv University. They were made to play the ‘Trust game’, in which trust can generate wealth but it requires each player to curb his or her self-interested behavior.

Fershtman and Gneezy found that, not only is trust widespread, but a large number of agents are willing to go all the way in trusting others so as to achieve the efficient outcome.⁸ But what is more, Fershtman and Gneezy demonstrated that trust can be identity conditional. Close to 60% of the individuals playing this game chose to be trusting when their opponent was of Ashkenazic origin; but only 20% chose to be trusting when the opponent happened to be of Eastern origin. Similar results of conditional trust have been reported from other experiments by other researchers (Eckel and Wilson, 2002; Burns, 2004).

The objective of the next sections is to take some of these ideas—of our innate cooperativeness and also our ability to vary the extent of cooperativeness depending on who we are interacting with—to an abstract analytical model and track their consequence for efficiency and development. Under what conditions does the cooperative spirit result in cooperation? And when does cooperation break down, despite individuals having an in-built cooperativeness?

3. Games and Allegories

3.1 Basic Framework

Instead of assuming that human beings are selfish and they ‘cooperate’ only when ‘cooperation’ is a derivative of selfish behavior,⁹ as most economics models suppose, I shall here

⁷ See, for instance, the discussion by Fehr and Falk (2002). They show, interestingly, that not only are these other traits a part of the human psyche but, at times, monetary incentives can actually backfire because they can weaken one of these other motivations for human action. Our morals can also take the form of wanting to punish cheats, even when that is costly to oneself (Hoff, Kshetramade and Fehr, 2006). In an earlier work, this, coupled with the instinct to cooperate with others is described as ‘strong reciprocity’ (Gintis et al, 2003).

⁸ There is now a substantial literature that reports similar findings of trust and altruism in experimental situations from around the world. See Ensminger, 2000; Heinrich et al, 2004.

⁹ One may legitimately wonder why the word cooperation should be used in such cases.

assume that the cooperative instinct is innately human. Just as self-interest creates drive and ambition, so can these other social concerns. But, more importantly, it is these other social characteristics--mainly the cooperative instinct--that provide the glue to hold society together and prepare the ground for markets to function efficiently (Granovetter, 1985; Elster, 1989; Arrow, 1998; Nee and Ingram, 1998; Platteau, 2000; Basu, 2000; Francois, 2002). Turning this argument around, we could claim that economies can fail when the cooperative instinct breaks down. Traditional economics, rooted in methodological individualism, makes no room for our innate cooperative spirit and so is handicapped in commenting on its breakdown. Hence, the aim of this paper is to introduce a modicum of non-individualistic behavior as basic to individuals, and then to build from that.

There are many different kinds of games that can be used to understand the connection between trust, altruism and identity – for instance, the Trust Game, the Ultimatum game and the Traveler’s Dilemma (Basu, 2000; Heinrich et al, 2004; Bowles, 2004). But let me here use what is, arguably, the most familiar game in the social sciences – the Prisoner’s Dilemma. Moreover, the Prisoner’s Dilemma has been used very elegantly by Sen (1974) to motivate the dilemma individuals face between their selfish wants and innate value judgments. The game is illustrated below in Table 1.

Table 1. The Prisoner’s Dilemma

		Player 2	
		C	D
Player 1	C	6, 6	0, 8
	D	8, 0	3, 3

Though its mathematical structure is standard, it will be *played* differently than in most textbooks. Hence, it needs some explanation. What is illustrated above are the dollar payoffs and I shall take it (purely for expositional ease) that each number represents an index of each person’s overall well-being, for instance, units of utility. It is convenient to assume that ‘utils’ match one-on-one with dollars. So in this game player 1 can choose between *C* and *D* and

likewise for player 2. It is a useful mnemonic to think of C as ‘cooperative behavior’ and D as ‘defection’. If player 1 chooses C and 2 chooses D – something that can equivalently be described as “if players 1 and 2 choose (C,D) ” – then 1 earns \$0 and 2 earns \$8. If they choose (D,C) , they earn 8 and 0 dollars, respectively, or $(8,0)$, in brief. And so on. This entire information is summarized in Table 1.

The standard analysis of the game goes as follows. Place yourself in the shoes of player 1 and observe that if player 2 chooses C , you are better off choosing D instead of C , since $8 > 6$. And if player 2 chooses D , you are better off choosing D instead of C , since $3 > 0$. Hence, no matter what the other player does, it is better for you to choose D . Because the game is symmetric for the two players, each player will reason the same way. Hence, the outcome will be (D,D) – both players will choose defection -- and so they will earn \$3 each. It is an unfortunate outcome since they could have earned \$6 each if both chose C , the cooperative strategy.

But, in reality, people do not just maximize their own dollar incomes or even their own utilities. People typically have fellow feelings, altruism, senses of fairness and the urge not to hurt others (or, in some cases, to hurt others). To keep the analysis as simple as possible, I shall simply allow for one kind of ‘social feeling’ in this formal analysis, that of altruism¹⁰. This will be captured by assuming *as if* \$1 (or, what is the same in this paper, 1 util) earned by the other player is valued by this player as equal to α dollars of his own, where $0 \leq \alpha \leq 1$. Later I shall allow the possibility of α varying depending on who the other player is. Thus, α may be 1 for kin, $\frac{1}{2}$ for kith, and 0 for an alien; and so on. But let us, for now, treat this as fixed. Hence, now if player 1 plays C and 2 plays C , player 1’s behavior is predicted by treating her (*effective*) *payoff* as $6 + 6\alpha$. It is possible to argue that the altruism that I feel for another person depends on the altruism he or she is expected to feel for me or how nice she is to me (Rabin, 1993; Levine, 1998; Gintis et al, 2003). Bringing in such interdependent altruism parameters would also allow us to talk about trust and other kinds of social behavior. But I leave such complexities out of the present paper. Taking a rather novel route, Sen (1974) argued that our morals may be viewed as a meta-ordering, that is, an ordering over the orderings of all the possible outcomes of

¹⁰ That people do more for one another than would be dictated by purely selfish considerations is widely noted from various walks of life. Laborers typically work harder than can be explained purely in terms of their direct self-interest (Fehr and Gächter, 2000; Minkler, 2004). Caregivers often give more care than they are required to give in terms of their job requirements (Zelizer, 2005).

the Prisoner's Dilemma. It is interesting to see that, using α , amounts to creating a moral *ideal* ordering over the four outcomes of the game; and setting $\alpha = 0$, amounts to capturing the selfishly best (or least morally-tainted) ordering. So there is an implicit meta-binary relation suggested by the approach taken here¹¹.

Two important clarifications are worth placing on record here. First, one question that may arise in the reader's mind is about the meaning of selfishness. It appears at first sight that, once the \forall is treated as a part of a person's preference, she can, then on, be thought of being perfectly selfish, since it is *her preference* to give a weight of \forall to others' income. So, it seems arguable that, given her preference, she is just as selfish as a person who values only his own dollars¹². The problem with this critique is that it reduces selfishness to a tautology; selfishness then becomes impervious to criticism. To counter this, what has to be kept in mind is that, contrary to what many economists claim, it is not a tautological definition of selfishness that economics uses. Economists would not have been able to derive any testable proposition if they did so, because all behavior would then be compatible with selfishness and so the selfishness assumption would not be able to predict any particular behavior.

Hence, the way I view \forall here is not as an innate part of a person's utility but simply as a guide to a person's *behavior*. Indeed, it may not be a part of our preference; it could be simply that we behave *as if* we valued other people's dollars by that amount. A player's welfare or level of utility is throughout measured by the utils shown in Table 1. It is simply that people do not play to maximize their utility but a hybrid of their utility and their social and moral sense, captured by \forall . Consider a person who gives \$1,000 to a charity. It would be reasonable to say that he preferred to give this money (that would be pretty normal use of English). But would we say that he is better off by giving the \$1,000 to the charity? Many mainstream economists would say yes, but I would contest this and argue that the person *is* worse off (in terms of most

¹¹ Beyond this we know little about the binary relation. It may be incomplete and also violate transitivity. It is arguable that when we try to rank alternatives that can be evaluated by different yardsticks, intransitivity and incompleteness are more likely to occur. We may then need to use other kinds of relational concepts such as "being on par" or reconcile to the conundrums that arise with transitivity (Qizilbash, 2003; Basu, 2007). These are more likely to happen in contexts of moral binary relations. Fortunately, the route I am taking here, via the simple use of α keeps us clear from these kinds of philosophical intricacies.

¹² This refers to a much larger problem, namely, that of interpreting the payoffs in a game. We can of course write down the number that each player will earn but there is no easy way of representing what this means to the player, who may 'correct' the number psychologically to take account of fairness, altruism and so on. Not surprisingly, this problem arises more seriously in sociological games and one of the earliest discussions of this problem occurred in

reasonable interpretations of well-being and welfare) but that he, nevertheless, prefers to make that little sacrifice for a good cause¹³. Otherwise, “making a sacrifice” would have to be deleted from our lexicons. This divergence between the index of individual well-being and what guides individual behavior needs some getting used to since it is alien to traditional choice theory. Fortunately, there is a small literature in game theory that inclines towards this: see Weibull (2004), Battigalli and Dufwenberg (2005).¹⁴

Another way to get to the same conclusion is by a slightly unusual use of the familiar mathematical method of “proof by contradiction”. Assume (as many economics textbooks do) that a person’s choice always and fully reflects his or her utility or welfare. Economists often try to prevent excessive government intervention by arguing that, if an exchange or trade enhances the utilities of the buyer and the seller, and has no negative fall-out on a third party, then there is no moral justification for stopping the trade or exchange (the Paretian argument). Whether or not we believe in the Paretian normative criterion,¹⁵ let us go along with it here. Suppose a politician bans the sale of houses and apartments. The standard argument that economists use against such an ill-conceived intervention is to point out that if an adult wants to sell his house and another adult wants to buy it, it is reasonable to expect that they will be better off by this, and since this is no one else’s concern, this is a Pareto improvement; and so government should not ban it. But note that the politician can easily contend that since she is against the sale, (and choice reflects utility), the sale is no longer a Pareto improvement.

So by this argument no government intervention can ever be stopped on the ground that the intervention stops a Pareto improvement, because the mere fact of the politician intervening to stop a transaction makes the transaction a non-Pareto-improvement. This somewhat absurd conclusion arises from the supposition that choice always reflects the chooser’s welfare. Indeed

Bernard (1954)--see also Swedberg (2001). Weibull (2004) encounters the same problem when analyzing the problem of interpreting results from experimental games.

¹³ In a paper focused wholly on this subject, we would distinguish between two kinds of other-regarding behavior. When a person makes a sacrifice for her child, for instance, it is arguable that this behavior is an extension of a person’s selfishness, since a child’s welfare is often internalized by us. But when one makes a contribution to some social charity or helps a person one does not know, it is arguable that this entails personal sacrifice. One does it not to gratify oneself but because one believes that one *should* this. Behaviorally the two cases may look the same but they are prompted by different internal processes and therefore would be evaluated differently when we normatively compare the outcomes. In this paper I am considering the latter kind of model for ‘other-regarding’ behavior.

¹⁴ Sen (2006, p.21) discusses the standard question economists ask “If it is not in your interest why did you choose to do what you did?” and observes: “This wise-guy skepticism makes huge idiots out of Mohandas Gandhi, Martin Luther King, Jr., Mother Teresa, and Nelson Mandela, and rather smaller idiots out of the rest of us ...”

¹⁵ There are critiques that have been aimed at this—see, for instance, Sen (1983).

it seems entirely plausible to me that a politician's policy choice is not something that should be equated with the politician's own utility.

Once we distinguish between utility and payoff (the latter being an admittedly tautological index that reflects choice), we may also wish to distinguish between fitness and payoffs in evolutionary games—to allow for the fact that what people choose is not what invariably maximizes their fitness or survival chance. I shall not pursue this here but it is a direction worth pursuing in future.

To sum up, there are three indicators associated with each person—the dollars earned by her, the utility she gets and what I call her 'effective payoff'¹⁶. In this paper I treat the first two as the same. This is an innocuous assumption, made for expositional convenience. However, I treat the third as distinct from the other two. This is a significant assumption—one that is crucial to this paper. Hence, what is being assumed is that the effective payoff numbers are guides to human behavior. People behave as if they are maximizers of those numbers. Their well-being however is related to but distinct from those numbers. The well-being numbers are given in table 1 and the effective payoffs are the numbers we get by making the α -based corrections to them.

Second, while formally what I am modeling is altruism rather than trust, it is reasonable to think of the model as an idiom for trust or other indicators of a person's sense of society. As will be evident soon (from Figure 1 below), a person's likelihood of cooperation depends on her expectation that the other person will cooperate. Hence, we could think of the player's decision as follows. If she trusts that the other person will cooperate, then she will be more inclined to cooperate. Hence, the analysis that follows, while explicitly that of altruism, could also be thought of as a model of mutual trust.

We could similarly, introduce stigma into the model by assuming that there is some stigma attached to being selfish and playing D. Of course, the person who chooses D need not be selfish but could be playing this in anticipation of the other player choosing D. But one of the functions of stigmatization, as pointed out by Gans (1972), is to scapegoat individuals in order to maintain certain norms of behavior. Further, in a more sophisticated and realistic model we may wish to allow for the fact that the α I attach to the other player's utility would generally depend

¹⁶ Henceforth, a reference to payoff will mean effective payoff. And when I want to refer to a person's direct well-being (that is, the kind of numbers shown in Table 1), I shall speak of dollars or utility.

on how she achieved it. I may attach a higher α to her income if she achieves it through (C,C), than if she achieves it through (C,D). But I shall here stay away from such complications.

3.2 Homogenous Society

Suppose we have a society with n individuals and players are randomly matched with each other and made to play the Prisoner's Dilemma. Note that a society in which players manage to cooperate a lot will become richer and better off over time. And if we append to this simple model a larger economy so that people can save a part of their income (over and above what they need to consume) and earn interest on that, then a society that manages to reach the outcome (C,C) often could become many times more prosperous than a society that always reaches the outcome (D,D). If, for instance, 3 is subsistence consumption, then the latter society will, presumably, have no savings, whereas the former will not only earn more, but save and become even richer in the long run.

Keeping in mind that the cooperative spirit, captured here by the altruism parameter, is natural to human beings, I want to locate conditions under which cooperation will occur and conditions where it will collapse into individualism and totally self-seeking behavior.

Let us begin by considering the case where a player is uncertain about how her opponent will play. Suppose λ is the probability that the other player will play cooperatively, that is, choose C. Then, if this player plays C, her expected (effective) payoff, denoted by $u(C)$, will be given by:

$$u(C) = \lambda(6 + 6\alpha) + (1 - \lambda)8\alpha.$$

And, if she chooses D, her expected payoff, $u(D)$, is given as follows.

$$u(D) = \lambda 8 + (1 - \lambda)(3 + 3\alpha)$$

Hence, she will choose C if and only if

$$u(C) \geq u(D)$$

$$\text{or} \quad \lambda \geq \frac{3 - 5\alpha}{1 + \alpha} \tag{1}$$

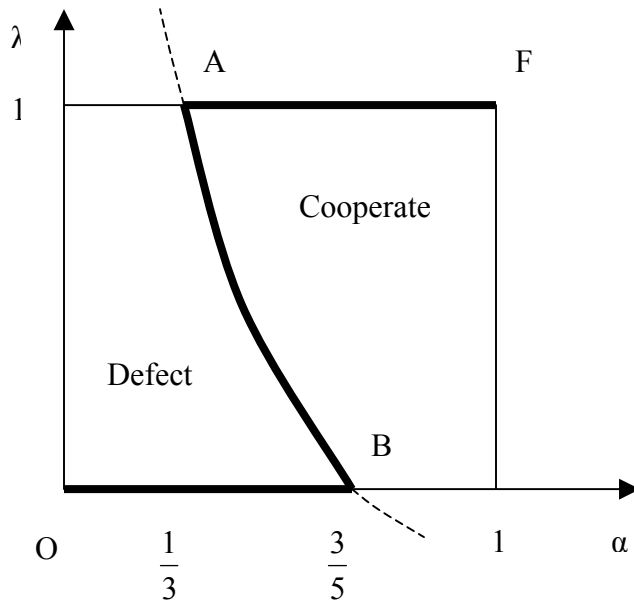
Equation 1 can be used to draw a line in an (α, λ) - space which marks the zone where a player will choose to play cooperatively.

In Figure 1, the line AB is the graph of (1), with the inequality sign replaced by an equality. Hence, if, for some α , the λ happens to be on or above the line AB, then a player will

choose to play C . In other words, if a player's altruism parameter, α , and her expectation that the other player will cooperate, captured by λ , are such that (α, λ) lies above the line AB , then and only then will she choose to cooperate.

This however does not as yet tell us about how this society will behave. This is because, while α (the society's altruism parameter) is being treated here as exogenously given,¹⁷ λ cannot be exogenous. Each individual's decision on how to play the game determines what fraction of society will play C and this determines what λ will be. Hence, we have to *derive* the value of λ .

Figure 1. The Zone of Cooperation



This is easily done. If α is to the left of A , that is, $\alpha < 1/3$, then no matter what the value of λ , a person will choose D . If everybody does this, λ will in fact be 0. Likewise consider the case where α is to the right of B , that is $\alpha > 3/5$. Then, no matter what value λ takes, each player will choose C . Hence λ will be 1.

¹⁷ In a deeper work we may wish to derive this from more basic assumptions about human biology and psychology, but that is beyond the scope of the present paper.

Finally, consider the case where $\frac{1}{3} \leq \alpha \leq \frac{3}{5}$. Let me use $\lambda(\alpha)$ to denote the point on the line AB . That is, $\lambda(\alpha) \equiv (3 - 5\alpha)/(1 + \alpha)$. If $\lambda > \lambda(\alpha)$, then a player confronting this λ will choose C . Since all players are identical, all will choose C under such circumstances; hence $\lambda = 1$. If, on the other hand, $\lambda < \lambda(\alpha)$, by a similar reasoning λ will be 0. In other words, we have multiple equilibria. This will lead to threshold effects and tipping behavior, as in Granovetter and Soong (1983) and Schelling (1972), whereby behavior can swing over from one extreme to another once it goes over a critical line. Finally, if $\lambda = \lambda(\alpha)$, then each player is indifferent between C and D . Hence, it is, in principle, possible to have λn players play C and $(1 - \lambda)n$ players play D . Hence, $\lambda = \lambda(\alpha)$ is also an equilibrium, albeit a precarious one.

Gathering the above derivations together, we have the following possible societal equilibria. If $\alpha < 1/3$, $\lambda = 0$. If $\alpha > 3/5$, $\lambda = 1$. If $1/3 \leq \alpha \leq 3/5$, then $\lambda = 0$ or 1 or $\lambda(\alpha)$. This information is summed by the correspondence illustrated by the thickened line in Figure 1, denoted by $FABO$.

If we ignore the points on AB , which depict unstable equilibria (a slight perturbation will have society spiraling away to one of the two other equilibria), then we see that if altruism is very high ($\alpha > 3/5$) cooperation will be automatic. If altruism is very low ($\alpha < 1/3$), there can be no cooperation. But with intermediate altruism there are multiple equilibria. The same society can behave totally cooperatively or totally non-cooperatively. By seeing one society behaving cooperatively and getting richer and another that is anarchistic, selfish and poor we cannot conclude that there are innate differences between the people of these societies. It could simply be the case of both behaviors being self-sustaining in equilibrium; and so two *ex ante*-identical societies could exhibit very different kinds of outcomes.

Some useful policy wisdom emerges from the above model. What we have modeled here as altruism is part of a generalized idea of trust, other-regardingness and the social spirit. There are situations in life – for instance, in starting a business – where we have to take the risk of vulnerability for the business to work. This is akin to playing C in the Prisoner's Dilemma. If your business partner (player 2) is cooperative (chooses C) you both do well, but if he betrays your trust, you will do badly (get 0). Hence, as already suggested, the altruism parameter α could also be thought of as a propensity to trust. So what this model shows is that altruism and trust are critical ingredients for a society to do well and prosper. In the present model we have

treated α as exogenous. But we know at an intuitive level that people (especially children) can be taught or inspired to be more altruistic, more trustworthy and more trusting. Now, one person being more altruistic (having high α) would not help that person economically. In fact, he would be vulnerable to being cheated. But, if *at a societal level* all individuals were more trusting, for instance, with α going from less than $1/3$ to over $1/3$, then there would be the possibility of greater cooperation and, if α went above $3/5$, cooperation would occur for sure, with all the attendant economic benefits of higher income and higher utility, as shown in Table 1.

Hence, greater altruism and trust among a people is like a public good. How exactly a government or an educational institute can create and nurture a more altruistic society we do not fully understand, but, at the same time, we do know that these traits change and can be changed. People can be taught not to litter the streets. Societies can cultivate habits of charity. Corporations can become environment conscious. Even if we do not as yet understand how these things happen, it is important to recognize that (a) unselfishness and altruism are traits that are innately there in human beings and so can, potentially, be modified and nurtured, and (b) such traits are valuable for economic development and efficiency.

3.3 Heterogeneous Society

All this time I have dealt with a society where all individuals have the same level of altruism. But some of the more interesting and complex issues arise when we recognize that the ‘cooperative spirit’, while innate, can vary across individuals.

What we are interested in understanding is what generates greater cooperative behavior among citizens. The degree of altruism, α , is an instrument towards this. In a homogeneous society, our aim would be to raise α if we wished to make cooperation more likely. But in a heterogeneous society the relation between the distribution of altruism and the possibility of cooperation can be complex. Interestingly, a tiny change in α can cause huge changes in behavior. For instance, the addition of a small number of selfish individuals in a society can, like adding culture to milk, transform the character of the entire society, in this case to a non-cooperating one. Hence, the cooperative outcome can be a fragile equilibrium.

To understand this, let us suppose that person i has an altruism parameter of α_i . If we number individuals from the most selfish (person 1) to the least selfish (person n) – and clearly there is no loss of generality in this – then we have:

$$\alpha_1 \leq \alpha_2 \leq \dots \leq \alpha_{n-1} \leq \alpha_n \quad (2)$$

An individual's altruism parameter is not visible. It will be assumed throughout that n is large; and that, when a player faces an opponent, she assumes that his altruism parameter is α_1 with probability $1/n$, α_2 with probability $1/n$ and so on.

Consider first a case where all n persons have altruism parameters in the interval $[1/3, 3/5]$. It is then easy to see that everybody playing C is an equilibrium and everybody playing D is another equilibrium. This is obvious. Since each person's α lies between $1/3$ and $3/5$ each person will choose C if he expects everybody else to choose C ; and each person will choose D if he expects everybody to choose D .

What is interesting is that the introduction of one person can cause a breakdown in the cooperative equilibrium. Indeed, the introduction of *one* low- α (or high-selfishness) person can ensure that society will have a *unique* equilibrium, where nobody cooperates.

The algebra of this kind of result is rooted in the idea of 'global games' and Bayes-Nash equilibria; in different contexts a similar reasoning has been used by Morris and Shin (1998) and Baliga and Sjoström (2004). The intuition is straightforward. Assume that the first t persons (i.e., persons 1 to t) prefer D over C . Now consider the $(t+1)^{th}$ person's decision problem. We know from (1), he will prefer D if

$$\lambda < \frac{3 - 5\alpha_{t+1}}{1 + \alpha_{t+1}}$$

Now, since the first t persons prefer D , the probability that a randomly chosen person will play D must be greater than or equal to t/n . Hence, the λ (probability that the other player will play C) that player $t+1$ faces is less than or equal to $(1 - \frac{t}{n})$.

Hence, (continuing with the assumption that players 1 to t play D), player $t+1$ will certainly play D if

$$1 - \frac{t}{n} < \frac{3 - 5\alpha_{t+1}}{1 + \alpha_{t+1}}.$$

This may be rewritten as

$$\frac{2n + t}{6n - t} > \alpha_{t+1} \quad (3)$$

This is the crucial equation that can be used to show how a small injection of selfish individuals into society can cause a total break down in cooperation.

Here is an example. Let us start with a society of 9 individuals ranging from person 2 to person 10. So, as of now, mysteriously, there is no one called person 1. For person t in this society let α_t be equal to $(t + 19)/60$. Hence,

$$\alpha_2 = \frac{21}{60}, \alpha_3 = \frac{22}{60}, \dots, \alpha_{10} = \frac{29}{60}.$$

As we have already seen, since in this society all α 's lie between $1/3$ and $3/5$, this society can be in an equilibrium where everybody cooperates at all times.

Let another person now join this society whose altruism parameter is $19/60$. Call him person 1. That is, $\alpha_1 = 19/60$.

So now we have a 10-person society. It is easy to verify that, for every t , going from 1 to 9, (3) holds. Let us, for instance, check this for $t = 5$. Since $n = 10$, the left-hand side of (3) is $25/55$. Clearly this exceeds $\alpha_6 = 25/60$.

Next note that $\alpha_1 < 1/3$. Hence, player 1 will certainly choose D . Now, since all players, 2 to 10, (that is, $t + 1 = 2, \dots, 10$), satisfy (3), we know that every player will strictly prefer D . Hence, this society of 10 persons has a unique equilibrium, where nobody cooperates. Though everybody's altruism parameter is unchanged, the injection of one habitual non-cooperator results in a total breakdown of cooperation.

This result is akin to what I have in a different context described (Basu, 2005) as the 'malignancy of identity' whereby what may be a dormant marker of identity with no consequence on behavior can, with a little egging on, acquire malignancy, leading to conflict between the races and different religious groups. This alerts us to the very real risk of how the injection of a small dose of new social norms or individuals carrying those different norms can create a cascading effect of change and breakdown. This must be happening nowadays with the global movement of people. And this must have happened in the heyday of colonialism, when the colonial masters arrived in new lands prepared to cooperate among themselves but not with the indigenous people. Radical writing in developing countries often talks about how the harmony of these *economically* backward societies, which nevertheless may have had a high moral code of behavior among themselves, got disrupted by the colonial invasions. There may be an element of exaggeration and false nostalgia, and a tendency to glorify the distant past in

this, but that huge disruptions in behavior codes and social norms *can* happen is clear enough, as the above theoretical construction illustrates. Just as we now recognize that the injection of new viruses in a society can spell havoc, so can the injection of new norms. It is also conceivable that ‘good norms’ carried into a society by newcomers can spread through the entire society. These are subjects that will need to be studied much more fully in the future. What the above model does is to provide a few basic building blocks for such a venture.

3.4 Alcoves of Altruism

Thus far, it was assumed that the altruism person i feels, she feels for everybody in her society. But, as the last discussion in the above sub-section alerts us and the examples in section 2 highlight, this need not be so. People do have different ethics and altruism for in-groups and out-groups. There are many societies fractured along lines of race, gender, religion, country of origin, language identities and caste and people often show extra trust and have an altruism premium for those with whom they share some common identity (see Glaeser et al, 2000; Luttmer, 2001)¹⁸.

With this recognition comes the possibility of many complexities. The simplest case is where in-group trust partitions the society into different alcoves, within each of which there is trust and altruism and across which there may be little of those social feelings. But there can occur situations where i treats j as belonging to i 's in-group, unaware that this feeling is not reciprocated. Cooperation in a nation or a group can break down when there are these cross-cutting allegiances. If a nation tries to create fellow feeling among its citizens, but a subset of citizens have allegiance to an identity different from that of this citizenship, then cooperation can break down.

Moreover, in the previous sub-sections altruism was always good. But in a society that is fractured, with altruism and trust confined to in-groups, these traits can become instruments of group oppression – where one group oppresses another, building up greater power in the

¹⁸ The importance of identity in determining behavior has long been recognized in sociology but is relatively new in economics (Akerlof and Kranton, 2000; Fryer and Jackson, 2003; Hoff and Pandey, 2003; Darity, Mason and Stewart, 2005; Basu, 2005; Iversen, 2005; Sen, 2006). Our identities are, however, not set in stone. The boundaries of our identities can be fuzzy and we often choose our identity and, equally, on occasions opt to overlook some of our existing identities. The reader should be warned that I take a very simplistic view of identity here because the aim is to solely illustrate the complications this brings into our analysis of altruistic behavior.

oppressing group than it would have managed if the members of the group tried to carry out the oppression atomistically.

These are directions that will take a lot of time and research effort to pursue. What I will do here is to take some short, tentative steps to illustrate the scope of research that opens up once we allow altruism to be limited to those with whom a player shares a common identity. Where this sense of identity comes from, whether it is malleable or permanent and whether it can be contained from malignancy are large topics on which much has been written¹⁹ and much more remain to be written. I shall here treat these as primitives by simply assuming that, when playing such games, people make use of some pre-existing sense of identity to decide how they will classify their opponents and how they will play against them.

Let me return to the assumption where α is a constant and work with the more interesting case, where $\frac{1}{3} < \alpha < \frac{3}{5}$. It is not as if I am assuming that everybody feels altruism vis-a-vis everybody, but simply that, when i feels altruism towards j , it is always at a constant altruism parameter of α . We could, in principle, allow the α 's to differ but that would complicate the algebra unnecessarily.

To fix the idea of non-symmetric identities, let $N = \{1, \dots, n\}$ be the set of all people and for each $i \in N$, let $G(i)$ be the set of people with whom i believes that she shares identity. The presumption is that i 's altruism extends only to members of $G(i)$. In the above section, we assumed $G(i) = N$, for all $i \in N$. That is, everyone shared the same identity, which in other words means that there was no sense of group identity of any consequence. What is now being claimed is that that need not always be true.

Define $C = \{X \subseteq N \mid \text{there exists } i \in N, \text{ such that } X = G(i)\}$. If C happens to be a partition of N , then the analysis will be virtually the same as in the above sections. Within each element of the partition, the game is played exactly as described above. If we suppose people feel altruism only for their own group members, then we could do the same analysis as in sub-section 3.2, but simply think of each group as a society. The analysis then is trivial. When people play across groups they are selfish, that is, they choose D . But within each group there could be cooperation or defection as in section 3.2. So we could, for instance, have an equilibrium, where group A

¹⁹ See Tajfel, 1974; Macy, 1997; Turner, 1999; Akerlof and Kranton, 2000; Basu, 2005; Sen, 2006.

cooperates and progress economically, whereas group B is a fractious community living in poverty.

The interesting variations occur when C is not a partition. Suppose society consists of two groups. Let a fraction γ of the population belong to group A (A can be race, caste or the fact of belonging to the same fraternity) and $(1 - \gamma)$ belong to group B. Hence, γn is the population of A and $(1 - \gamma)n$ is the population of B. In the formal language developed above, $C = \{A, A \chi B\}$, where $\{A, B\}$ is a partition of N.

So the people of group B think of A and B as a common identity, that is, their identity is a general national identity, whereas those in group A share an in-group identity with members of A. It could be that members of group A recognize each other because, for instance, they belong to a secret society, whereas to members in B everybody looks the same. So members of B feel altruism for all individuals in this society and cannot tell who belongs to A and who belongs to B. But members of A can tell a member of A from a non-member, and they have cultivated altruism α only towards their own group members.

Now when a type-B meets another player, the probability that the other player will cooperate is, *at most*, $(1 - \gamma)$. Hence, using the same calculation that went behind equation (1) we can see that a type-B will cooperate only if

$$1 - \gamma \geq \frac{3 - 5\alpha}{1 + \alpha}$$

or,

$$\frac{6\alpha - 2}{\alpha + 1} \geq \gamma \quad (4)$$

Assume, for instance, that $\alpha = 2/5$. Then (4) gives us the condition $\gamma \leq 2/7$. Let us suppose this is true and all type-B's cooperate. Type A's, on the other hand, cooperate only with their own types.

Hence in this equilibrium type A's earn an expected *dollar* income of $6\gamma + 8(1 - \gamma)$ every time they play the Prisoner's Dilemma. This is because whenever they meet a type A (probability γ) they earn \$6 and, when they meet type B (the trusting type whom they let down), they earn \$8.

On the other hand, the expected income of type B is $6(1 - \gamma)$. Hence, type A's earn more than B's. But not just that, type A's, by forming this in-group collusive block, earn more than

they would have earned if they cooperated with all. The latter would give them a per-game income of \$6.

There is a Machiavellian lesson tucked away in this algebra. Consider the case where $\alpha = 2/5$ and $\gamma > 2/7$. We know from (4) that type B's will now not cooperate. It is however in the interest of type A's to get them to play cooperatively, because that way they can be better 'exploited'. One way of restoring the 'exploitative equilibrium' is for type A's to decide, collusively, not to play D against type B's always, but to occasionally play C. This will enable them to delude the masses into believing that they all share one common identity and play collusively at all times. It is in fact arguable that some of the most successful exploitations of the masses rely, wittingly or unwittingly, on strategies of this kind.

One question that may arise in the reader's mind is about the general applicability of these results, since all the derivations are being done here with the example of the Prisoner's Dilemma and that too for a certain class of payoffs. This would indeed have been cause for concern if I were trying to establish general results—about what will always be true in society. Instead, the aim here is to illustrate how society *can* exhibit certain kinds of behavior that were treated as not possible in our textbook models. We have just shown how some groups can use their innate traits of (in-group) altruism to control or even exploit other groups. It is not being claimed that this will always happen but simply that it can happen under plausible conditions. Hence, the illustration of this argument with a game that is accepted as a good model for some social situations suffices for the present context. Of course, testing the frontiers of its generalization would be an interesting exercise for the future.

3.5 Focal Identity

The discussion of in-group trust draws attention to another difficulty that could arise with identity-based collusive behavior. As we have already seen, even if people want to trust others and cooperate, one problem could arise from there being no 'focal identity' in the society. In subsections 3.2 and 3.3 we had assumed that an entire nation shares a common identity and they are bound by a common altruism towards all (though in 3.3 one person's extent of altruism could be different from another's). In 3.4 we saw cases where there could be conflicting identities and this could lead to a subset of society playing cooperatively.

One variant of this problem can lead to a total failure in cooperation in society. It is of course well-recognized that we have multiple identities and this can often (in fact, I believe, more often than not) help hold societies together (Sen, 2005; Dahrendorf, 1959). But this can also lead to a failure of cooperation. To see this suppose people in a country resolve to be cooperative among those with whom he or she share their primary identity. But if this society lacks a focal identity or has overlapping identities instead of partitioned identities, cooperation may fail to occur in equilibrium.

To see this suppose in a nation there are two races, 1 and 2, two religions, 1 and 2, and two language groups, 1 and 2. Using notation in an obvious way, we can describe a person as $(1,2,1)$ or $(2,2,1)$ and so on, where $(1,2,1)$ means a person of race 1, religion 2 and language 1. Let me use A to denote the set of all people of type $(1,2,1)$, B to denote all of type $(1,1,2)$ and C to denote $(2,1,1)$. Assume $1/3^{\text{rd}}$ the population is of type A , $1/3^{\text{rd}}$ of type B and $1/3^{\text{rd}}$ of type C .

Let us now assume that all A 's think that race is the primary identity (that is, they try to be cooperative with all and only those who share their race), all B 's think that religion is the primary identity and all C 's think that one's mother-tongue is the primary identity. In this society, each person will find that at least $1/3^{\text{rd}}$ of the times they will have the other player choose defect.

Hence, we can see that if α is less than $1/2$, the right-hand term in (1) is greater than $1/3$. Since in this society λ is below $1/3$, by (1) we know that no one will play cooperatively. Thus, even if every player has $\alpha = \frac{2}{5}$, no cooperation will occur in this society. The reason for this is the lack of a focal identity.

This has the policy implication that if a government or some collectivity wants to encourage cooperative behavior in the country or among its members, it must try to create a focal identity among its citizens. Various repressed groups that fail to rise collectively against their oppressors probably do so for reasons of an absence of a focal identity among themselves. This is an equally useful result for a tyrant or powerful government trying to prevent some group or nation from acting cooperatively within itself. The aim must be to destroy the group's ability to form a focal identity. Through a deliberate policy of splintering the group's identity into various overlapping and conflicting identities it can keep the group under control and keep at bay the possibility of group rebellion. If you can break up a large group into a partition of smaller

groups, that can be useful in foiling rebellion. But if you can destroy the large group's focal identity by nurturing overlapping identities you can do even more damage to the large group. This is the reason why analysis of this kind can be useful and dangerous.

4. Remarks

The model above is best treated as an allegory of the real world. Nevertheless, it talks to us about policy and, like all science, does so whether our aims are noble or mean. It tells us how to prosper economically and gives hints and suggestions for people trying to cooperate among themselves and escape oppression, and also for people wanting to cooperate in order to oppress others, not belonging to their group. It shows, for instance, that one way to exploit a large mass of people is to form a collusive sub-group the members of which identify primarily with the sub-group but deludes the large mass into believing that it identifies totally with the large mass. Of course, and mercifully, the effort of the sub-group can be foiled by there being other sub-groups trying to do the same. If too many opportunistic groups come into existence, society could crumble into the low-output equilibrium of selfish anarchy.

A central lesson that comes out from this allegory and one that contrasts sharply with popular wisdom concerns the ubiquitous 'invisible hand.' The 'invisible hand theorem', which has come down to us from Adam Smith²⁰, and was discussed in section 1, has had enormous influence in shaping economic policy and has been prominent in the advice that various think tanks and organizations, not to mention legions of economists, have given to developing country governments. One inadvertent implication of the theorem that many have taken away from it and that has had considerable influence on the organization of our economic and social life and also in the way we conduct ourselves is that it is fine to be selfish, since in the end that is good for society²¹. This selfishness axiom has in recent times spilled over into other disciplines, such as sociology and the new political science.

As a consequence, we are taught that not only are consumers and producers necessarily self-seeking but so are politicians, bureaucrats and judges; and, more significantly, that that is

²⁰ As a digression on attribution, note that, though modern social scientists treat the 'invisible hand' as the central message of Smith's **Wealth of Nations**, it is in reality a trivially small part of that book, and occurs when dealing with international trade. Smith had used the expression earlier, but in a different sense, in his **Theory of Moral Sentiments** (1759) and even earlier in "History of Astronomy," which was however published posthumously.

fine. This has some alarming consequences. It means that all we can expect of a judge is for verdicts that best serve his or her own interest. And so the only way to make judges and magistrates give just verdict is to design the institutional and incentive structure of the courts in such a way that it is in each judge's self-interest to be just.

This ubiquitous philosophy has been damaging not only socially and morally but even in terms of economic growth and development, because the truth about development is that it needs human beings to be other-regarding, fair, and trustworthy. And since these traits are innately available to most of us, what we need is not to have them muted through training and socialization. Take the problem of bureaucratic corruption, which has been eating into the fabric of so many societies, and blighting the possibility of development. The standard policy response to this, inspired by the popularity of the invisible hand theorem and the very visible global economists, is to argue that government ought to redesign the system of incentives and punishments for bureaucrats. What we do not say is that the ubiquity of corruption has a lot to do with the lack (or, more appropriately, suppression) of personal integrity and individual moral commitments. The design of incentives plays a role, but a bigger role is played by our own sense of values and morals. Governments which are non-corrupt are largely so not because of third-party monitoring of such corruption but because of the self-monitoring of bureaucrats. There is no scope for this in standard economics because it provides little space to *self*-monitoring.

Hence, there is no reason to believe that countries with rampant corruption are populated by citizens who are innately less moral; but simply that they *act* less morally in equilibrium. This is related to the findings from the celebrated experiments by Frank, Gilovich and Regan (1993). They showed that in games where one can be selfish to different degrees, economists play the most selfishly. There are different ways of interpreting the result but I take the view that, since economists learn from their textbooks that everybody is selfish and it is fine to be selfish, they, like all human beings, try to conform to what they take to be the standard behavior (see also Rubinstein, 2006)²². In corrupt environments, people begin to treat corruption as the norm (moreover deviating from that norm also has larger costs than in more honest environments) and,

²¹ This is what makes the occasional dissenting voice refreshing: see Rubinstein (2006a).

²² It is conceivable though that in experimental and examination-like situations people give the answers they feel are expected of them, and so these findings merely reflect the disciplinary training of economists; and that, in reality, the behavior of economists would be no different from that of others.

like economists in the above-mentioned experiments, try to replicate what they take to be normal behavior.

The starkest examples of this one sees in the streets of Third World countries. With drivers willing to break every rule and showing a relentless commitment to serving their own interests and with very little presence of the traffic warden, the streets of the Third World should be textbook models of neoclassical efficiency. The fact that they are not should alert us to the possibility that the central message of so many of our textbooks may just be wrong.

The truth is that human beings are not relentlessly selfishness—though they can learn to be so if it is drilled into them that that is normal or they grow up in societies caught in an ethos of selfish-behavior; and, if we want society to progress and economic development to occur, we need to nurture our innate sense of social values—such as altruism, integrity and fairness.

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